OFF SITE SAMPLING

GIVAUDAN CHEMICAL COMPANY

CLIFTON, NEW JERSEY

GIVAUDAN CHEMICAL COMPANY

Clifton, NJ

Samples Collected 6/18/83

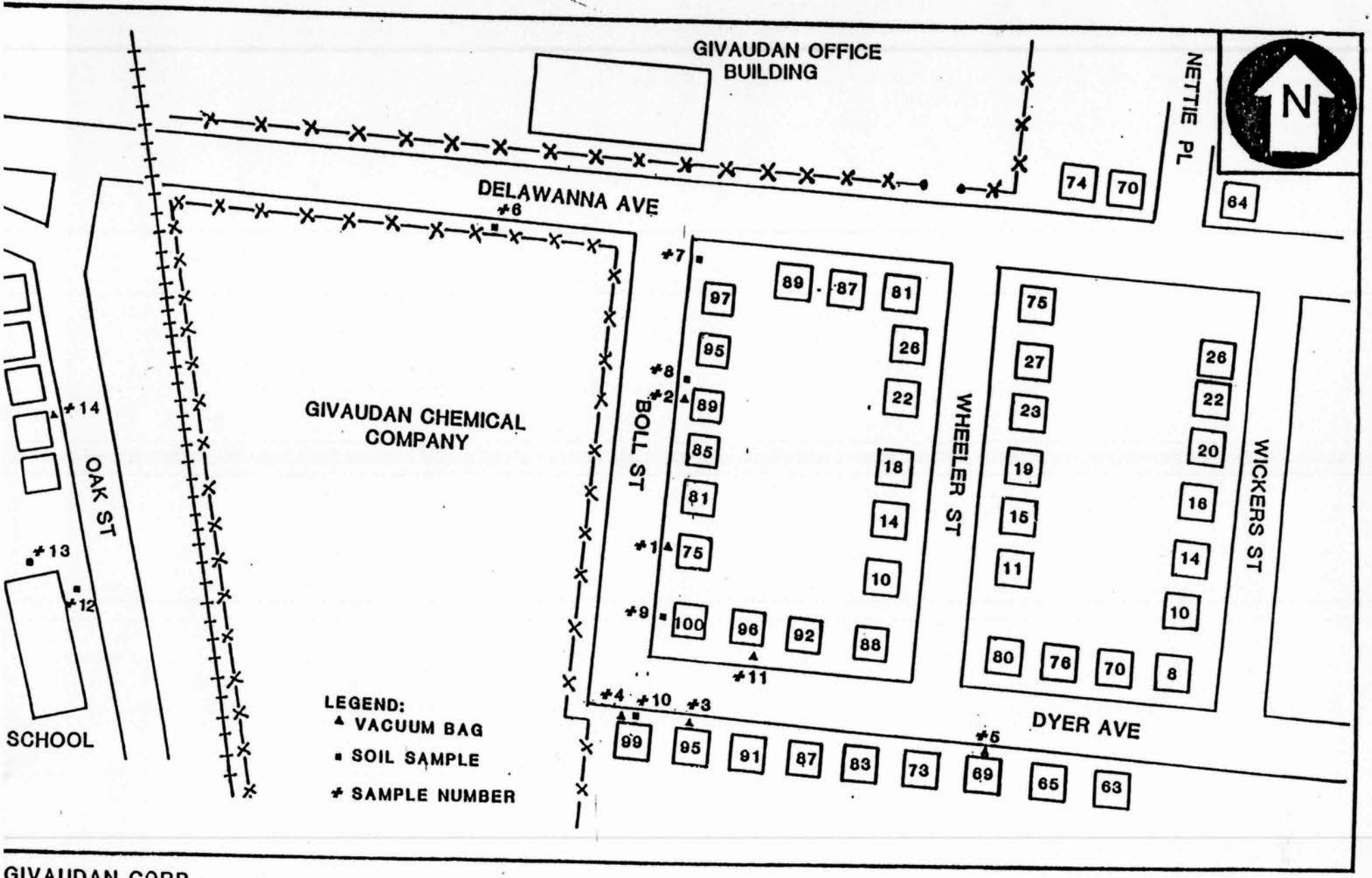
SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE TYPE	RESIDENT	CONC TCDD (ppb)	DETECTIO LIMIT
3-B-1	75 Boll St.	Vacuum Bag	Mrs. Moret	ND(a)	0.06
3-B-2	89 Boll St.	Vacuum Bag	Mrs. Barszcz	ND	0.14
3-B-3	95 Dyer Ave.	Vacuum Bag	Joseph Pantano	ND	0.04
3-B-4	99 Dyer Ave.	Vacuum Bag	Michael Fedoriw	ND	0.10
3-B-5	69 Dyer Ave.	Vacuum Bag	Eilleen Hyer	ND	0.04
3-B-6	Delawanna Avenue 5' from Crime Watch Sign 2.5' from Street	Soil	N/A(b)	ND	0.03
3-B-7	97 Boll St. 2' from Street 2nd Seam from Driveway	Soil	*Note: Sample may not be representative since the sod between the curb and sidewalk was replaced in 1981.	ND	0.02
3-B-8	89 Boll St. 5' from Sidewalk	Soil	Mrs. Barszcz N/A	ND	0.01
3-B-9	100 Dyer Ave. 5 Fence Poles from the Corner of Dyer and Boll on Boll Street	Soil		ND	0.02
3-B-10	99 Dyer Ave. 4' from Edge of Lawn, Middle of Bay Window	Soil	Michael Fedoriw	ND	0.03
3-B-11	96 Dyer Ave.	Vacuum Bag	Patricia Emde	ND	0.04
3-B-12	Public School #8 49 Oak Street Front Lawn - 5' from Edge of Lawn, in Line with Flag Pole	Soil	N/A	ND	0.07 0.02D

NOTES: (a) ND = Not Detected
(b) N/A = Not Applicable
(c) = Duplicate

Table 1 (Cont'd)

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE TYPE	RESIDENT	CONC TCDD (ppb)	DETECTIO LIMIT
13-B-13	Public School #8 49 Oak Street Northwest Site of School 30' from Manhole in Lawn	Soil	N/A[a]	ND	0.02
13-B-14	77 Oak Street	Vacuum Bag	Mrs. Byer	ND	0.35
13-B-15	EPA - Raritan Arsenal	Vacuum Bag Blank	N/A	ND	0.06
13-B-16	EPA - Raritan Arsenal	Sample Blank (Spike)	N/A	0.97	N/A

TES: (a)N/A = Not Applicable
(b)N/D = Not Detected

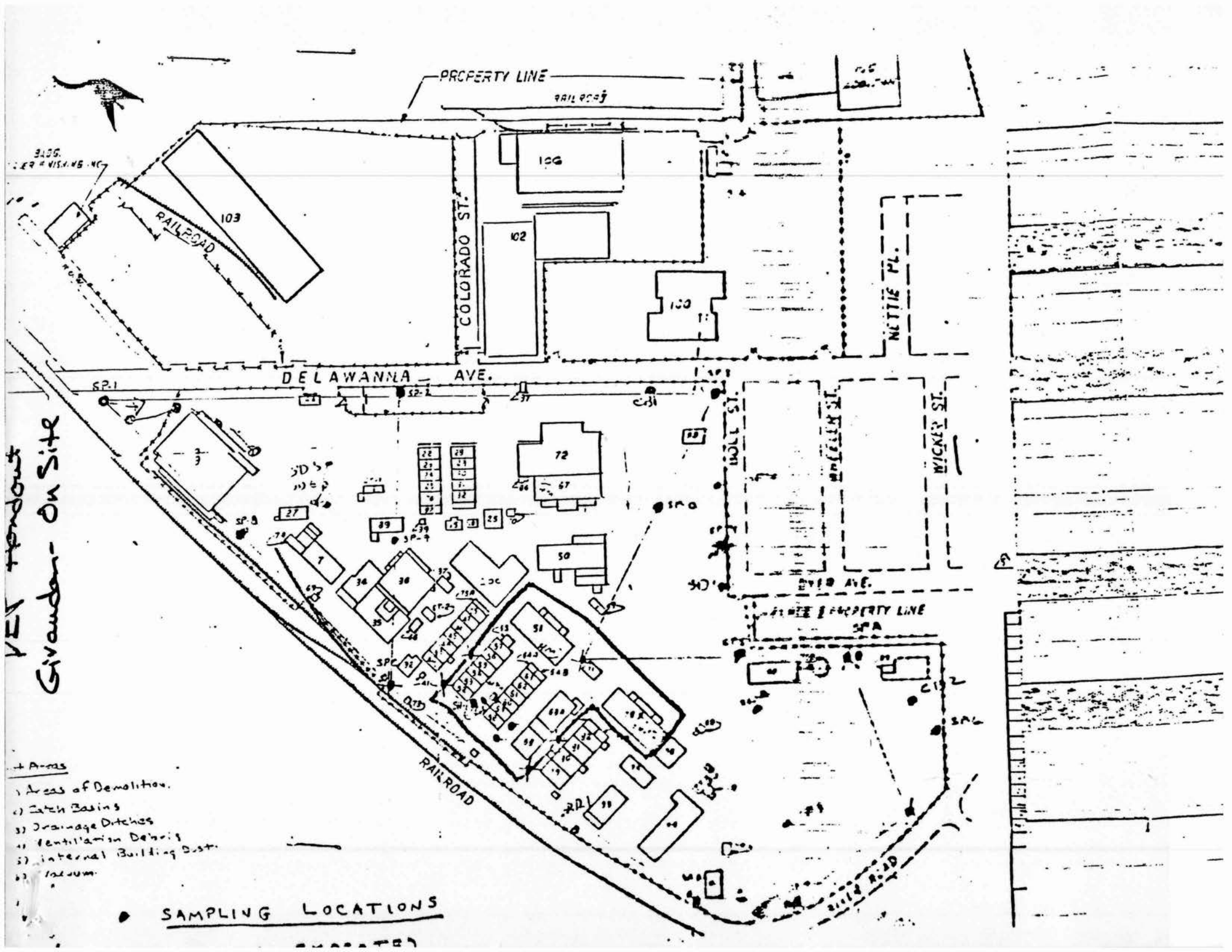


GIVAUDAN CORP.
CLIFTON, N.J.

SAMPLE LOCATION MAP

FIGURE 1

NUS CORPORATION


PROPERTY LINE
RAILROAD
BLDG. NOT IN USE
103
RAILROAD
COLORADO ST.
102
100
NETTIE PL.
DELAWANNA AVE.
SP-1
SP-2
SP-3
SP-4
SP-5
SP-6
SP-7
SP-8
SP-9
HOLL ST.
NETTIE ST.
WICKER ST.
72
67
50
51
RAILROAD
PROPERTY LINE
Givaudan- On Site
+ Areas
1) Areas of Demolition.
2) Catch Basins
3) Drainage Ditches
4) Ventilation Debris
5) Internal Building Dust.
6) Vacuum
SAMPLING LOCATIONS

DATE	SAMPLER	LOCATION	TYPE	VALUE
6/10/83	Givaudan	Bldg. 60A	Surface	1.0
"	"	" 77	"	11.0
"	"	" 58	"	5.0
"	"	" 58	"	0.50
6/14/83	"	" 60A	"	2.9
"	"	" 77	"	9.3
"	"	" 77	6" Depth	4.2
"	"	" 77	12" Depth	6.5
"	"	" 58	Surface	5.5
"	"	" 58	6" Depth	5.0
"	"	" 58	12" Depth	7.1
"	"	" 58	Surface	0.95
"	"	Tunnel	"	0.40
"	"	"	6" Depth	ND
"	"	"	12" Depth	ND
6/16/83	"	RR Track	6" Depth	ND
"	"	Bldg. 91	6" Depth	0.11
"	"	Prop.Line So. of No. 11	6" Depth	<0.1
6/16/83	"	Prop.Line SW #99	6" Depth	<0.1
"	"	Prop.Line TW # 54	6" Depth	<0.1
6/17/83	"	Bldg. 60A Hotbox Scrapings	N/A	6.3
6/17/83	"	Bldg. 52	Surface	2.4
6/17/83	"	" 52	Surface	0.17
"	"	" " Catch Basin	N/A	No Value
"	"	Bldg. 68	Surface	0.23
"	"	" 68	"	2.2
"	"	" 71	"	0.11

INTERNAL SPACE SAMPLING

LOCATION	WIPE (ng/ft²)	SWEEP (ppb)
Bldg. 52	1.3	< 0.2
" 53	1.5	1.3
" 54	6.5	22.0
" 55	1.3	< 1.2
" 56	< 0.1	< 0.07
" 57	< 0.1	0.23
" 58	< 1.2**	0.51
" 59	1.9	0.23
" 60	4.4	< 0.6
" 61	1.9	No Sample
" 62	< 1.0	0.49
" 63	< 1.0	0.6
" 64	< 1.0	No Sample
" 64A	< 1.0	No Sample
" 65	No Sample	No Sample
" 68	No Sample	No Sample
" 68A	No Sample	No Sample
" 51	No Sample	No Sample
" 71	No Sample	No Sample
" 78	< 1.0	0.18

TCDD Data Report - Page 1

Lab: ETC Corp.

Date: 08/21/83
GC Column: 60M SP2340

ETC Number	Sample Number	E/C	Grams Wet Weight	ppb TCDD	D.L.	320/322	Surrogate Percent Accuracy	Area 320	Area 322	Area 257	Area 328+	Area 332	Area 334	Comments
MB40-2	MB	J/AD	10.00	ND	0.23	-	89	-	-	-	314	368	474	
C3099S	QA SPIKE	J/AD	10.00	1.0	-	0.85	88	79	93	33	187	225	282	
C4838	QA REP	J/AD	10.58	65	-	0.75	92	10130	13512	5143	406	456	592	
C4838R	QA REP	J/AD	10.28	78	-	0.82	137	1075	1309	480	52	37	54	
C5051	SBETWHEX88	J/AD	10.27	-	-	-	-*	-	-	-	-	-	-	
C5052	SBETW77X60A	J/AD	1.05	-	-	-	-*	-	-	-	-	-	-	
C5053	SACIDSTO	J/AD	11.04	1.7	-	0.81	90	122	151	65	170	208	242	
C5054	SRRDITCH	J/AD	10.49	ND	0.44	-	112	-	-	-	917	1085	1295	
C5055	XVENTFAN59	J/AD	3.34	ND	-	-	-*	-	-	-	-	-	-	
C5056	BYARDDRAIN	J/AD	10.36	ND	-	-	-*	-	-	-	-	-	-	

+Corrected for contribution by native TCDD (Subtract 0.009 of m/e 322).
* To be repeated

MB = Method Blank
P = Partial Scan
N = Native TCDD Spike
D = Duplicate (Intralab)
FB = Field Blank

H = High Resolution
ND = Not Detected
DL = Detection Limit
J = Jar Extraction
S = Soxhlet Extraction

A, B, C,D- Clean Up Option (or any combination)

TCDD Data Report - Page 1

Lab: ETC Corp.

Date: 06/22/83
GC Column: 60M SP2340

ETC Number	Sample Number	E/C	Grams Wet Weight	ppb TCDD	D.L.	320/322	Surrogate Percent Accuracy	Area 320	Area 322	Area 257	Area 328+	Area 332	Area 334	Comments
41 MB-1	MB	J/AD	10.00	ND	0.04	-	101	-	-	-	7135	9017	11527	
41 MB-2	MB	J/AD	10.00	ND	0.03	-	100	-	-	-	6467	8147	10575	
41-3099S	QA SPIKE	J/AD	10.00	0.97	-	0.64	94	239	372	82	453	548	825	
C5034	BSP6	J/AD	10.64	ND	1.0	-	102	776	-	357	1848	2241	3040	
C5034R	BSP6D	J/AD	10.82	ND	0.67	0.62	105	920	1474	413	4025	4882	6260	
C5026	BCB1	J/AD	10.04	-	-	-	-*	-	-	-	-	-	-	No ISTD seen
C5027	SSP3	J/AD	10.48	ND	0.35	-	102	-	-	-	1526	2007	2465	
C5028	SSP4	J/AD	10.03	ND	0.13	-	103	202	-	64	4166	5257	6470	
C5029	SSP10	J/AD	10.10	ND	0.11	-	109	173	-	96	4607	5432	6868	
C5030	SSD1	J/AD	10.27	4.3	-	0.71	110	4838	6860	1684	3431	4147	4923	
C5031	SSP5	J/AD	10.49	ND	2.0*	-	108	572	-	415	742	912	1083	
C5032	SSD2	J/AD	10.26	ND	0.15	-	107	-	-	-	329	405	493	
C5033	BCB2	J/AD	10.21	0.86	-	0.73	103	529	729	228	1731	2121	2744	
C5035	SSD3	J/AD	10.29	ND	0.47	0.52	108	341	656	-	2783	3323	4291	
C5036	SSP7	J/AD	10.26	ND	0.15	0.60	104	145	240	-	2482	2997	3915	
C5037	SRR1	J/AD	10.62	ND	0.17	0.44	87	84	190	-	1252	1885	2282	
C5038	SCX1	J/AD	10.21	ND	0.13	-	108	-	-	-	1748	2047	2649	
C5039	SSP1	J/AD	10.29	ND	0.23	-	106	-	-	-	2262	2716	3462	
C5042	SSD5	J/AD	10.37	ND	0.25	-	108	-	240	-	4354	5248	6479	
C5043	SSD6	J/AD	10.49	ND	0.11	-	105	-	-	-	5880	7207	9037	
C5047	SSD4	J/AD	10.44	ND	0.08	-	105	-	-	-	2822	3444	4378	

+Corrected for contribution by native TCDD (Subtract 0.009 of m/e 322).
*To be repeated.

MB = Method Blank
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N = Native TCDD Spike
D = Duplicate (Intralab)
FB = Field Blank

H = High Resolution
ND = Not Detected
DL = Detection Limit
J = Jar Extraction
S = Soxhlet Extraction

A, B, C,D- Clean Up Option
(or any combination)

Lab: ETC Corp.

Date: 08/30/83
GC Column: 60M SP2340

ETC Number	Sample Number	E/C	Grams Wet Weight	ppb TCDD	D.L.	320/322	Surrogate Percent Accuracy	Area 320	Area 322	Area 257	Area 328+	Area 332	Area 334	Comments
6/27MB#1	MB	J/AD	10.00	ND	0.04	-	116	-	-	-	6541	7100	9246	
6/27MB#2	MB	J/AD	10.00	ND	0.03	-	119	-	-	-	5386	5825	7353	
C30933	QA SPIKE	J/AD	10.00	1.09	-	0.76	116	1048	1377	511	2989	3288	4199	
C5976 (formerly C4424)	QA REP	J/AD	10.29	0.25	-	0.77	112	519	678	252	6170	6893	9077	
C5976R	QA REP	J/AD	8.01	0.38	-	0.73	116	217	296	121	2265	2499	3191	
C6104	GS-1	J/AD	10.24	4.2	-	0.85	106	480	568	125	326	372	453	
C6105	GS-2	J/AD	11.10	0.14	-	0.80	104	87	109	27	1617	1813	2368	
C6106	GS-3	J/AD	10.66	0.21	-	0.87	103	138	158	37	1752	1989	2570	
C6107	GS-4	J/AD	10.11	0.55	-	0.81	103	456	561	126	2383	2715	3434	
C6108	GS-5	J/AD	10.13	ND	0.09	-	105	-	-	-	370	417	533	
C6109	GS-6	J/AD	10.77	0.12	-	0.85	102	100	117	32	2109	2407	3155	
C6110	GS-7	J/AD	10.33	0.40	-	0.85	103	210	247	65	1419	1621	2072	
C6111	GS-8	J/AD	10.74	-*	0.68	1.03	72	282	273	56	696	1083	1500	
C6112	GS-9C	J/AD	10.19	0.75	-	0.84	102	99	118	28	365	419	543	
C6113	GS-10C	J/AD	10.45	1.7	-	0.81	104	129	160	45	216	244	312	
C6114	JBC-3	J/AD	10.38	0.09	-	0.78	103	95	125	36	3185	3609	4680	
C6115	JBC-1	J/AD	11.38	0.10	-	0.68	104	202	297	104	5372	6712	8448	
C6116	JBC-2	J/AD	10.83	0.35	-	0.76	106	712	943	294	5415	6665	8314	
C6117	JBC-4	J/AD	11.34	0.18	-	0.74	104	575	779	250	7980	10009	12523	
C6118	JBSS-1	J/AD	10.80	1.1	-	0.70	110	386	551	171	1056	1233	1597	
C6119	JBSS-2	J/AD	10.42	9.7	-	0.79	108	10387	13129	4434	2894	3554	4459	
C6120	JBSS-3	J/AD	11.83	0.15	-	0.70	104	323	459	121	5276	6744	8156	
C6121	JBSS-4	J/AD	10.31	3.1	-	0.77	106	7030	9184	3044	6217	7643	9544	
C6122	JBSS-5	J/AD	10.31	-*	6.3	1.08	137	24422	22520	12807	11007	10468	13119	

+Corrected for contribution by native TCDD (Subtract 0.009 of m/e 322).
*To be repeated, since 320/322 ratio unsatisfactory.

MB = Method Blank
P = Partial Scan
N = Native TCDD Spike
D = Duplicate (Intralab)
FB = Field Blank

H = High Resolution
ND = Not Detected
DL = Detection Limit
J = Jar Extraction
S = Soxhlet Extraction

A, B, C, D- Clean Up Option (or any combination)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ROBERT E. HUGHEY, COMMISSIONER
CN-402
TRENTON, N.J. 08625
609-292-2885

ADMINISTRATIVE ORDER NO. EO

WHEREAS, Governor Thomas H. Kean has issued Executive Order No. declaring that a state of emergency exists arising from the potential dioxin contamination of the premises at 125 Delawanna Avenue, in the City of Clifton, New Jersey; and

WHEREAS, by said Executive Order the Governor has authorized and directed me to take such emergency measures as I may determine to be necessary in order to fully and adequately protect the health, safety and welfare of the citizens of this State from any actual or potential threat or danger which may exist as a result thereof; and

WHEREAS, preliminary test results have indicated detectable levels of dioxin present at portions of the site of the Givaudan Corporation at 125 Delawanna Avenue, in the City of Clifton, New Jersey and:

WHEREAS, it is necessary to take additional measures to protect the public health, safety and welfare while further information is obtained;

NOW, THEREFORE, pursuant to the powers vested in me by Executive Order No. , I hereby Order and Direct that the Givaudan Corporation immediately implement the following measures, at its expense, under the supervision and direction of this Department and the U. S. Environmental Protection Agency:

(1) All areas where preliminary test results have indicated the presence of dioxin at or in excess of one (1) part per billion shall be closed and secured, with physical access thereto restricted. All such areas should be covered by a permeable ground cover installed by a contractor approved by representatives of the Department and the U. S. Environmental Protection Agency in such manner and location as may be directed by those representatives.

(2) All hexachlorophene production shall be suspended until further notice by the Department. Those areas of the facility which are associated with the hexachlorophene production process, as determined by the Department, shall be closed and secured with physical access thereto restricted. No hexachlorophene shall be moved into or from these areas or any other area of the 125 Delawanna site.

(3) Commencing June 18, 1983, on-site sampling of interior and exterior areas of the 125 Delawanna Avenue facility shall be conducted by a contractor approved by representatives of the Department and the U. S. Environmental Protection Agency, in such manner and location as may be directed by those representatives.

(4) No hazardous or chemical waste shall be removed from the 125 Delawanna Avenue site until further notice by the Department. No materials or substances containing Trichlorophenol shall be moved onto, about or from the 125 Delawanna Avenue site until further notice by the Department.

(5) No demolition, excavation, movement or disturbance of soil, or placing, movement or removal of construction materials or equipment shall occur and 125 Delawanna Avenue site until further notice by the Department.

(6) All medical and personnel records, reports and other information shall be provided as requested by the Commissioner of the N. J. Department of Health.

(7) Appropriate health screening and evaluation programs, including but not limited to employee medical examinations, shall be implemented as directed by the Commissioner of the N. J. Department of Health.

(8) Any other precautionary or remedial action shall be implemented as may be directed by this Department, the N. J. Department of Health, or the U. S. Environmental Protection Agency.

This Order shall take effect immediately.

WITNESS: Michael A. Catania

ROBERT E. HUGHEY
Commissioner

6/17/83
DATED

File: Givaudan

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF REGULATORY SERVICES
CN 402
TRENTON, N.J. 08625
609 - 292 - 2906

EL F. CATANIA
FOR

HERBERT B. BENNETT
KEITH A. ONSDORFF
ASSISTANT DIRECTORS

July 8, 1983

Mr. William Hyatt
Pitney, Hardin, Kipp & Szuch
c/o Givaudan Corporation
100 Delawanna Avenue
Clifton, NJ 07015

Dear Mr. Hyatt:

I am writing to confirm several items which were discussed at our meeting of yesterday with respect to the Givaudan Coporation facility at 125 Delawanna Avenue in Clifton.

Effective July 8, 1983, and based upon additional sampling results received by the Department, the restrictions on access to buildings 51, 71, 78, 68 and 68A are hereby revised as follows. Access to buildings 51, 71 and 78 may be from any entrance thereto. Access to 68 and 68A should be from the southern side of the buildings; access from the northern side of these two buildings shall continue to be prohibited until further notice by the Department. However, access to these five buildings will require the use of disposal overboots (booties). Access to buildings 52 through 57 and 58 through 64B will be allowed only for the purposes of removal of equipment or materials. Persons entering these buildings for these purposes will be provided with "level C" protective equipment. Any material or equipment removed shall be subject to decontamination procedures will be approved by the Department. Existing restrictions imposed by the administrative order on the movement on trichlorophenol or hexachlorophene will continue in place.

Certain specific areas in the location bounded by the fence along Boll Street and the eastern line of building 72, 67 and 50 shall be covered by a permeable ground cover to be installed on July 8, 1983, or soon thereafter as practicable by a contractor approved by DEP and the USEPA. The manner of installation and specific location for this cover will be determined by an on-scene representative of this Department.

It is my understanding that the Givaudan Corporation will immediately retain the services of an environmental consultant to be approved by DEP and EPA. This consultant will immediately commence the development of a comprehensive sampling program for the entire Givaudan facility. In addition, this consultant will also prepare recommendations for short term and long term removal/containment/decontamination of the known areas subject to dioxin contamination.

As we discussed, the specific additional sampling and remedial actions which will be undertaken by Givaudan will be outlined in an administrative consent order. I expect that we will reduce the provisions of that order to writing within the next week.

Except as otherwise outlined above, the administrative order issued to Givaudan on June 20, 1983 shall continue in full force and effect.

Please do not hesitate to contact me if you have any questions concerning this matter.

Sincerely,

Michael F. Catania

dm

cc: Tom Burke
Marwan Sadat

Givaudan Site - Sampling and Remedial Action

IA. Additional Sampling:

Givaudan Corporation will immediately retain the services of an environmental consultant (subject to EPA and DEP approval) to develop a comprehensive sampling program for the entire site located south of Delawana Avenue (IIIA.). In order to alleviate the immediate production problems that this corporation is experiencing, it is suggested that the sampling protocol be composed of a short term (immediate) and long term program. The immediate sampling protocol would deal with delineating the extent of dioxin contamination in the area south of the lagoon and adjacent to building 49 (Attachment A). Since the exact shape of the contaminated area is undefined at this time, a sampling grid will be superimposed on the area bounded by the fence adjacent to Boll Street and the eastern building lines for the structures numbered 72, 67, and 50.

IB. The interior space in buildings 58, 59, 60, 61, 62, 63, 64 and 64B, 52, 53, 54, 55, 56, 57, (58) will be sampled as well as building 68 and 68A.

1
65

IC. Additional composite samples extending from the vicinity of building 73 along the railroad line and to a line passing through building 91 will be taken.

ID. The consultant for Givaudan Corporation will submit, within one week, a sampling protocol for the rest of the site including sampling of the lagoon. The sampling protocol will be designed to satisfy yield results at the 95% confidential levels. The sample protocol will be submitted to DEP and EPA for approval.

IIA. Immediate Remedial Action

The area bounded by the fence along Boll Street and the eastern building lines 72, 67, and 50, exclusive of the area covered by the lagoon, will be covered by a protective permeable tarp. This work will commence as soon as possible but no later than July 8. The design for a containment berm which will freely allow the flow of runoff but capture the sediments will be submitted to the Department by the Givaudan consultant no later than July 13, 1983. The extent of the berm will be the area along the property line between building 73 and 95. The same type of berm will be designed for the drainage ditch located between the railroad line and the property fence between building 73 and 91. The containment berm will use a geofrabric of appropriate characteristics. Specifics for the material and design of the berm will be submitted to the Department for approval.

IIB. The existing quarantine line will be moved so as to allow access to building 51, 71, 78, 68A and 68. Access to building 68A and 68 will be from the southern entrance to the structures. Access through the northern entrance to these buildings is prohibited unless specifically authorized by the Department.

IIC. Access to buildings 51, 71, 78, 68A and 68 will require usage of disposable overboots (booties).

IID. Production in building 52 through 57, 58 through 64B can resume conditionally on workers in the area using level C protection until such time as a sampling program has demonstrated to the satisfaction of the Department that dioxin contamination has not occurred inside these buildings. Level C protection is as defined in EPA Manual _____.

IIE. Within 30 days after the completion of the short term sampling program, Givaudan Corporation will submit to the Department a remedial program for the proper decontamination/containment of the known dioxin contaminated area.

IIF. Prior to the completion of the sampling program for the inner spaces as indicated in IB, an accurate count and inventory of all disposable overboots and protective clothing used to access the building indicated in Section IIC and IID will be kept. All protective clothing and disposable overboots will be stored in watertight containers (55-gallon drums). These containers will be stored in a cordoned-off area with limited access.

IIG. Access areas to buildings as indicated in IIC and IID will be overtarped in order to accommodate the additional traffic.

IIIA. Elements of Sampling Protocol:

Soil samples will be collected in conformance to the EPA document entitled, "Determination of 2, 3, 7 - TCDD in Soil & Sediments, May 1983 (Attachment B)"

IIIB. All soil and sediment samples will be collected with stainless steel trowels or bucket augers. Soil samples will be thoroughly homogenized by using a commercial type blender.

IIIC. The methodology for collecting wipe samples will be submitted to the Department for approval.

IIID. Plastic materials will not be used in any sampling procedure.

IVA. Minimum elements of remedial action:

The consultant for Givaudan Corporation will submit the following minimum information which will contain but is not limited to:

a. Complete site map with the location of all sampling points and the results thereof.

b. A site plan with all structures indicated thereon with a summary of the activities and equipment in use.

c. The natural runoff pathways and runoff catch basins and the intake structures.

d. A contour map of that portion of the Givaudan site located south of Delawana Avenue indicating the elevation contours

e. A plan for the temporary storage of all contaminated material resulting from the decontamination plan.

f. Detailed specifications, drawings, and methods which will be used in the decontamination plan.

g. A site safety protocol for the decontamination plan.

Memo

NEW JERSEY STATE DEPARTMENT OF HEALTH

NSDH

TO Michael Catania, Director Off. Regulatory Services
Department of Environmental Protection

DATE July 19, 1983

FROM William Parkin, DVM, State Epidemiologist
Division of Epidemiology and Disease Control

PHONE

SUBJECT Givaudan Corporation - Revised Recommendations

The Department of Health has reviewed the results of the environmental sampling that was performed at Givaudan on July 9. These results were provided to the Department by Givaudan and the Department of Environmental Protection. These samples included wipe, dust, sweep and composite dust/sweep samples from the interior of building in the cordoned off area.

As part of the review process the Department of Health has consulted with Dr. Jim Melius, Chief of Hazard Evaluation and Technical Assistance Branch, National Institute for Occupational Safety and Health (NIOSH) and Mr. Rick Gorman, Industrial Hygienist, NIOSH. In addition, personnel from the Department of Health and NIOSH conducted a walk-through of the buildings in the cordoned off area.

Based on this review, the following revisions of our previous recommendations are presented for your consideration.

1. All personnel who enter the original cordoned off area (including buildings 51 and 78) should wear disposable booties. These booties should be worn by all personnel who enter any section of this area and removed only when leaving the area. This procedure should remain in effect until there is a final disposition to the outside dioxin contamination.

2. Production may resume in all buildings except 54, 58, 59 and 60. No respirators or personal protective clothing (except booties) are required for personnel who enter or work in these buildings.

3. The sampling results for building 54 show higher levels of dioxin contamination in both the wipe and dust samples. Before production is resumed in this building, the interior of the building should be cleaned and additional resampling (wipe and dust samples) performed to evaluate the effectiveness of the clean-up operations. This resampling should include wipe samples from the floor, walls and worker contact areas.

   After the clean-up is performed and before the sampling results are available, production can resume in this area conditional to workers wearing level C protective clothing and respirators (as previously defined).

   The clean-up of the building should include cleaning with a vacuum cleaner equipped with a high efficiency particulate filter, followed by a detergent and solvent wash of all surface areas.

4. Before hexachlorophene production resumes, buildings 58, 59 and 60 should be cleaned with a vacuum cleaner equipped with a high efficiency particulate filter. In building 60, the surface areas should be cleaned by washing all surface areas with a detergent, followed by a solvent. After this cleaning is completed,

resampling (wipe and dust samples) should be performed in building 60, to evaluate the effectiveness of the clean-up operation. This resampling should include wipe samples from the floor, walls and worker contact areas.

After the clean-up and before the sampling results are available, hexachlorophene production can resume conditional to workers wearing level C protective clothing (as defined previously) without respirators in building 60. Since workers assigned to the hexachlorophene production area (building 58, 59, and 60) will conveivably have to go back and forth into building 60, these workers should wear level C protective clothing (as previously defined) without respirators.

The Department of Health would encourage the Department of Environmental Protection to consider revising and implementing our current recommendations as immediately as possible. We are concerned about the physiological stress that workers are experiencing while they are wearing level C protection during the present adverse weather conditions. The implementation of these recommendations will immediately reduce the number of workers who have to wear level C protection. In addition, after the clean-up operations, production in the hexachlorophene area can resume.

s to buildings 51, 71, 78, 68A and 68 will require usage of dis-
le overboots (booties).

ıction in building 52 through 57, 58 through 64B can resume con-
nally on workers in the area using level C protection until
time as a sampling program has demonstrated to the satisfaction
ıe Department that dioxin contamination has not occurred inside
buildings. Level C protection is as defined in EPA Manual
_____.

.n 30 days after the completion of the short term sampling program,
ıdan Corporation will submit to the Department a remedial program
:he proper decontamination/containment of the known dioxin con-
ıated area.

: to the completion of the sampling program for the inner spaces
ıdicated in IB, an accurate count and inventory of all disposable
›oots and protective clothing used to access the building indicated
ection IIC and IID will be kept. All protective clothing and dis-
›le overboots will be stored in watertight containers (55-gallon
s). These containers will be stored in a cordoned-off area with
ted access.

ss areas to buildings as indicated in IIC and IID will be over-
ed in order to accommodate the additional traffic.

ents of Sampling Protocol:

samples will be collected in conformance to the EPA document
tled, "Determination of 2, 3, 7 - TCDD in Soil & Sediments,
1983 (Attachment B)"

soil and sediment samples will be collected with stainless steel
els or bucket augers. Soil samples will be thoroughly homogenized
sing a commercial type blender.

methodology for collecting wipe samples will be submitted to the
rtment for approval.

tic materials will not be used in any sampling procedure.

mum elements of remedial action:

consultant for Givaudan Corporation will submit the following
mum information which will contain but is not limited to:

Complete site map with the location of all sampling points
and the results thereof.

A site plan with all structures indicated thereon with a
summary of the activities and equipment in use.

The natural runoff pathways and runoff catch basins and the
intake structures.

A contour map of that portion of the Givaudan site located
south of Delaware Avenue indicating the elevation contours

e. A plan for the temporary storage of all contaminated material resulting from the decontamination plan.

f. Detailed specifications, drawings, and methods which will be used in the decontamination plan.

g. A site safety protocol for the decontamination plan.

Memo

NEW JERSEY STATE DEPARTMENT OF HEALTH NSH

Michael Catania, Director Off. Regulatory Services
Department of Environmental Protection DATE July 19, 1983

William Parkin, DVM, State Epidemiologist
Division of Epidemiology and Disease Control PHONE

CT Givaudan Corporation - Revised Recommendations

The Department of Health has reviewed the results of the environmental sampling that was performed at Givaudan on July 9. These results were provided to the Department by Givaudan and the Department of Environmental Protection. These samples included wipe, dust, sweep and composite dust/sweep samples from the interior of building in the cordoned off area.

As part of the review process the Department of Health has consulted with Dr. Jim Melius, Chief of Hazard Evaluation and Technical Assistance Branch, National Institute for Occupational Safety and Health (NIOSH) and Mr. Rick Gorman, Industrial Hygienist, NIOSH. In addition, personnel from the Department of Health and NIOSH conducted a walk-through of the buildings in the cordoned off area.

Based on this review, the following revisions of our previous recommendations are presented for your consideration.

1. All personnel who enter the original cordoned off area (including buildings 51 and 78) should wear disposable booties. These booties should be worn by all personnel who enter any section of this area and removed only when leaving the area. This procedure should remain in effect until there is a final disposition to the outside dioxin contamination.

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3. The sampling results for building 54 show higher levels of dioxin contamination in both the wipe and dust samples. Before production is resumed in this building, the interior of the building should be cleaned and additional resampling (wipe and dust samples) performed to evaluate the effectiveness of the clean-up operations. This resampling should include wipe samples from the floor, walls and worker contact areas.

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After the clean-up and before the sampling results are available, hexachlorophene production can resume conditional to workers wearing level C protective clothing (as defined previously) without respirators in building 60. Since workers assigned to the hexachlorophene production area (building 58, 59, and 60) will conveivably have to go back and forth into building 60, these workers should wear level C protective clothing (as previously defined) without respirators.

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